EMOTION

a unit lesson plan for high school psychology teachers

Revised by Shirley Collins, Mary Jarvis, Don Kober, Brian LeCloux, Trudy Loop, Robert Peterson, Wanda Wilson, Ronald Wood, and Amy Fineburg

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Faculty Consultant, Occidental College

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Lesson 1: Introduction to Emotion

I. Defining emotion

A. No well-accepted definition of *emotion* exists. Difficulty in defining emotion hampered research on it for a long time.

See Activity 1.1: Human Emotions (with Handout 1.1)

B. A useful definition is *a relatively brief episode of synchronized evaluative physiological, behavioral, and subjective responses*.

C. The term *emotion* usually is distinguished from feelings, mood, and affect.

1. *Feeling:* the subjective experience associated with an emotion.

2. *Mood:* an emotional state that is general and extended in time.

3. *Affect:* encompasses feelings and mood and categories of emotion (e.g., *positive* or *negative affect*).

D. Emotion functions to:

1. Increase, decrease, or regulate arousal

2. Direct perception and attention

3. Influence learning and memory

4. Organize and motivate behavior

5. Communicate with others

Lesson 2: The Neuroscience of Emotion

I. Brain mechanisms of emotional recognition and experience

A. Brain systems important in emotion

1. Many interrelated brain structures are involved in the recognition and experience of various emotions, often loosely defined as the *limbic system* (Calder, Burton, Miller, Young, & Akamatsu, 2001).

2. Several subcortical structures are important in emotion.
    a. Damage to the amygdala impairs recognition and expression of fear, anger, and happiness.
    b. Damage to the basal ganglia impairs recognition and expression of disgust.

3. Several areas of the cortex also are important in emotion, including the prefrontal cortex, posterior cortex, and insula.

B. Lateralized function of cerebral hemispheres

1. Right hemisphere
    a. High activity is associated with depression and flexion (avoidant) motions.
    b. More active than left hemisphere during displays of many emotions.
    c. Damage often leaves individuals emotionally indifferent and unable to read many emotions.

2. Left hemisphere
    a. More active than right during smiling, positive emotions, and extension (approach) motions.
    b. Relatively low activity in the left frontal lobe is associated with depression.

3. Two theories
    a. *Right-hemisphere theory:* Right hemisphere dominant in all emotional processing.
    b. *Valence theory:* Right hemisphere dominant for negative emotions; left dominant for positive emotions.
    c. Evidence for both exists. Current theorizing focuses on interhemispheric integration to reconcile findings (Achuff, 2001; Killgore & Yurgelun-Todd, 2007).

II. Neuroendocrine arousal mechanisms

A. The *hypothalamic-pituitary-adrenal system* controls stress hormones that facilitate short-term coping with emotional events.

1. *Hypothalamus:* Brain region that regulates hormonal functions via the pituitary gland.

2. *Pituitary gland:* "Master gland" that receives messages from hypothalamus and relays signals to endocrine glands to regulate hormones.

3. *Adrenal glands:* Located atop the kidneys; top part (*adrenal cortex*) responds to signals from pituitary by releasing stress hormones such as cortisol into the blood.

B. The *autonomic nervous system* controls responses to cognitive and environmental stimuli that give rise to emotional responses.

See Activity 2.1: The Autonomic Nervous System

1. The *sympathetic nervous system* releases norepinephrine onto peripheral targets (i.e., organs, glands, or muscles) to prepare the body for vigorous activity (e.g., increased respiration, sweating, and heartbeat).
    a. Stimulation of the *adrenal medulla* causes release of epinephrine and norepinephrine into the blood.
2. The *parasympathetic nervous system* releases acetylcholine onto peripheral targets (i.e., organs, glands, or muscles) to relax the body after the activity is over (e.g., slows heartbeat).

III. Application: Lie detection

A. People have tried to develop a reliable way to detect deception for hundreds of years.

B. During the 20th century, devices sensitive to sympathetic nervous system (SNS) activity were developed as "lie detectors."

1. The logic is that lying makes people nervous, which is reflected in increased SNS activity (e.g., racing heart, sweaty hands).

2. SNS responses to key questions ("Did you rob the bank?" "Do you cheat on your taxes?") are compared to control questions ("Is today Tuesday?"). Larger responses on key questions are supposed to indicate lying.

3. Polygraph results are only rarely admissible in court. In 1988, a U.S. law made it illegal for employers to ask employees to take a polygraph test except under limited circumstances.

C. Critique: Lie detector machines are unreliable. "Good liars" may be judged truthful, and honest people may be judged to be lying (National Research Council, 2003).

D. Alternative approaches

1. Guilty knowledge test: Measures reactions to information that only a guilty person would know. Intent to lie or tell the truth is irrelevant.

2. Identification of and training to detect reliable facial and behavioral cues to deception (Ekman, 2002).

Lesson 3: Types of Emotion

I. Basic emotions

A. According to one view, people have a few basic emotions, analogous to the elements of chemistry. According to a competing view, emotional feelings occur along two or more continuous dimensions, such as pleasure vs. displeasure and activity vs. inactivity.

B. Among those who accept the idea of basic emotions, this list of such emotions is widely agreed to include anger, disgust, fear, happiness, sadness, and interest. Other candidates for the status of basic emotion include contempt and amusement.

C. Expression and recognition emerge early in life but continue to develop through adolescence (Herba, Landau, Russell, Ecker, & Phillips, 2006).

1. Emotions expressed at birth are just global arousal states; infants show little anger until 6–8 months, when they also start to show fear (especially stranger anxiety).

D. Facial expressions associated with basic emotions show high cross-cultural recognition (Ekman, Sorenson, & Friesen, 1969).

1. However, cultural differences exist between individualistic (e.g., U.S.) and collectivist (e.g., China) cultures. For example, Chinese adults discourage expression of strong emotions, and Chinese children cry and smile less at one year of age compared with U.S. children.

II. Self-conscious and social emotions

A. Includes emotions such as shame, guilt, contempt, pride, envy, and empathy.

B. These emotions fully develop later than basic emotions because they depend on landmarks in cognitive development, such as a sense of self and theory of mind.

C. Recognition of social emotions appears to depend even more than basic emotions on the amygdala (Adolphs, Baron-Cohen, & Tranel, 2002).

See Activity 3.1: Differentiating Between Jealousy and Envy (with Handout 3.1)

III. Refined emotions

A. Definition: A new concept for aspects of emotional experience that require higher mental processes, such as higher order awareness (Frijda & Sundararajan, 2007).

B. Basic and self-conscious emotions are refined through an abstract, overall sense of things (harmony) or the active search for harmony and heightened emotional experience (savoring).

C. Refined emotions have minimal outward expressions.

Lesson 4: Emotional Experience

I. Theories of emotional experience

A. James–Lange

1. Evaluation of a stimulus causes physical reaction that is experienced as a specific emotion.

Example: A person sees a spider and regards it as dangerous. According to the James–Lange theory, the person would begin to shake and then experience the shaking behavior as fear: "I feel afraid because I am shaking" (see Transparency Master 4.1 for illustration).

2. Zajonc (pronounced "zy-uns") (1980) similarly emphasized the elicitation of emotions prior to thought (the "primacy of affect").

See Activity 4.1: Facial Feedback Hypothesis (with Handout 4.1)

B. Cannon–Bard

1. Thalamus relays stimuli to internal organs and cortex simultaneously.

2. Physical changes and emotional experience occur at the same time.

   Example: A person sees a spider. According to the Cannon–Bard theory, the person would begin to shake and simultaneously appraise the shaking behavior as fear: "The spider makes me shake and feel afraid" (see Transparency Master 4.1 for illustration).

3. LeDoux's (2003) more recent theory similarly distinguishes two pathways, one to lower brain regions for fast, immediate reactions and implicit emotional memories and one to higher cortical regions for conscious awareness and explicit emotional memories.

C. Two-factor theory: Schachter and Singer

1. Physiological arousal and certain behaviors are associated with several emotions and thus lack the specificity needed to account for emotion.

2. Situational cues and what one is thinking at the moment determine which emotion is experienced (crying at a birth = happy; crying at funeral = sad).

   Example: A person sees a spider. According to two-factor theory, the person, who believes spiders are dangerous, begins to shake and appraises the shaking as fear: "I label my shaking as fear because I appraised the situation as dangerous" (see Transparency Master 4.1 for illustration).

3. Lazarus and Folkman (1984) proposed a similar theory of stress, in which stress reactions result from appraisals of the seriousness of the stressor and whether coping resources are sufficient.

II. Fear

A. Adaptive response signaling danger and need for defense.

B. Sudden novel or intense stimuli can elicit fear in many species without prior learning.

C. Acquired through classical conditioning (i.e., stimuli associated with past trauma).

D. Acquired through observational learning (i.e., observed fears of parents and friends).

E. Possible evolutionary predispositions to acquire persistent, specific fears (i.e., of snakes, cliffs, and angry faces; not of cars, guns, or electricity).

See Activity 4.2: What Do You Fear? (with Handout 4.2)

III. Anger

A. Elicitors of anger include extreme temperatures, pain, frustration, perceived injustice.

B. Individual differences

1. *Trait anger:* People who are prone to experience anger show a bias toward interpreting ambiguous behavior as hostile (Wilkowski, Robinson, Gordon, & Troop-Gordon, 2007).
    a. It is important to consider the person's environment here; some people may come from environments with high degrees of hostility and violence. Interpreting ambiguous behavior as hostile in such an environment may be adaptive.

2. *Hostility:* People with a more hostile attitude are at greater risk of heart disease (Niaura et al., 2002). Hostility reduction is a cost-effective way of improving recovery during heart-related hospitalizations.

3. Expressive style: *anger-in* (depression) vs. *anger-out* (aggressiveness) (Spielberger et al., 1985).

IV. Happiness

A. The *adaptation-level principle:* People adapt to a certain level of happiness and need something even better to continue to feel happy.

B. The *relative-deprivation principle:* The sense that one is worse off than others.

C. Predictors of happiness:

1. High self-esteem

2. Outgoing personality

3. Close relationships

4. Work that engages; having goals in life

5. Religious faith

6. Sleeping well

7. Exercise

D. Wealth and happiness

1. Recent studies (e.g., Lucas & Schimmack, 2009) indicate that wealth correlates better than previously thought with happiness. If you compare rich to poor, you find a difference in happiness (previous studies compared people within the middle range of incomes). However, wealth cannot buy happiness.

E. Individual differences in happiness are partially heritable and are relatively stable.

F. Too much happiness?

1. *Ideal affect* (Tsai, 2007), or preferred emotional state, differs among individuals and across cultures. For instance, Americans prefer high-arousal positive emotion, whereas East Asians prefer low-arousal positive emotion.

2. High and very high happiness are associated with success in different domains (e.g., education vs. relationships, respectively) (Oishi, Diener, & Lucas, 2007).

See Activity 4.3: The PANAS (Positive and Negative Affect Schedule) (with Handout 4.3)

V. Empathy

A. *Empathy vs. sympathy*: Both involve sensitivity to another's emotions. Empathy involves feeling the same emotion as another, whereas sympathy involves responding to another's emotion with no emotion or a different emotion.

Example: A woman sees a sad child crying. If she feels sad, she is empathizing; if she offers to help or feels anxious, she is sympathizing.

B. Individuals have different characteristic levels of empathy (trait empathy).

C. More empathy is directed at members of one's social group (ingroup) than at members of other social groups (outgroup).

D. *Mirror neurons:* cortical neurons that fire the same way when one observes an action as when one makes the action—may play a role in empathy ("mirroring" another's emotions).

Lesson 5: Emotional Communication

I. Social functions of emotion

A. Communicate to others one's emotional state and intentions.

B. Regulate social distance.

C. Form, maintain, or terminate relationships.

II. Facial expressions—Ekman, Izard

A. Cross-cultural consistency of facial expressions of six basic emotions.

Example: A smile is a positive expression in all cultures.

See Activity 5.1: Flashing Faces (with Handout 5.1)

B. Expression of emotions depends on social interaction.

Example: Happy Spanish bowlers and soccer fans smile more when facing another fan (Ruiz-Belda, Fernández-Dols, Carrera, & Barchard, 2003).

C. Facial expressions in turn amplify and regulate the emotion.

Example: Students induced to smile rate cartoons as funnier (see Activity 4.1).

III. Cultural influences

A. Experience shapes expression and recognition of basic emotions, such that recognition is better within than between cultural groups (Elfenbein & Ambady, 2003).

B. Cultural differences

1. Use gestures, words, and intonation differently to convey emotion.

   Example: A thumbs up in American culture is a sign of approval, whereas in Middle Eastern countries, it is an insult.

2. *Display rules:* Cultural norms for emotional expression

   Example: Individualistic cultures encourage emotional displays that are longer and more intense, in contrast to collectivist cultures, which promote more subtle forms of emotional expression.

   Example: Individualistic cultures value pride in one's accomplishments, whereas collectivistic cultures see similar expressions of pride as boastful. Children from collectivistic cultures express pride in accomplishment at a later age and less frequently.

See Activity 5.2: Perspective Taking

IV. Development of emotional competence (Saami, 2007)

A. Emotional competence includes:

1. Emotional awareness: self and others

2. Mastery of emotion language

3. Acquisition of display rules

4. Emotion regulation

B. Children learn to exaggerate, minimize, or mask emotional expressions.

    1. Duchenne (genuine) vs. social (fake) smile.

    2. Masking disappointment at an undesirable gift.

C. Girls develop emotional competence earlier than boys.

    1. Gender differences are influenced by society—e.g., research shows that parents speak differently to daughters than to sons, using a greater number and variety of emotion words with young daughters than with sons (Kuebli & Fivush, 1992).

activity 1.1
human emotions

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CONCEPT

Emotion can be defined as a conscious experience that includes a state of (physiological) arousal and a mediating interpretation. As such it is assumed to emphasize two factors: (a) some degree of arousal and (b) an attempt by the experiencing organism to label the experience. Nonetheless, emotion is still a very complex phenomenon to study. Indeed, the two most widespread research strategies have been (a) attempts to label the dimensions of emotion and (b) theoretical attempts to integrate physiological and cognitive factors.

MATERIALS

Newspaper and magazine photos of people's faces (5–10 per student); Handout 1.1

DESCRIPTION

A couple of days before this demonstration, assign your students to bring in newspaper and magazine photos showing people's faces. Make sure there is a variety of emotions expressed, perhaps by asking each student to bring in 5–10 such photographs. Also prepare a large poster board labeled as in the figure on Handout 1.1. The squares in the figure should be labeled with numbers. Along one axis, label seven positions that range from *pleasant* to *unpleasant*; along the other, label seven positions from *acceptance* to *rejection*. Finally, prepare one additional strip of poster board material labeled *sleep-tension* (or *sleep-arousal*) in lettering similar to that used in the poster. The extra strip of poster board should also have seven numbered positions and be large enough to cover the labels of the other dimensions.

First ask your students to sort the pictures that have been brought in along a 7-position *pleasant–unpleasant* dimension, placing each picture in one of seven positions. On the back of the picture itself, note the rating it received from each

(activity 1.1 *continued on next page*)

(activity 1.1 *continued from previous page*)

student. Next, repeat this process on a 7-point *acceptance–rejection* scale. Finally, repeat the process once more on a scale of arousal—a sleep-tension (or arousal) scale.

Now introduce the poster board containing the figure. On this figure, students should have no trouble finding pictures that can fit into each square, from most pleasant and accepting to most unpleasant and rejecting—using their prior average ratings of the position of each picture on each individual scale. Thus, a picture rated 1 (*very accepting*) and 1 (*very pleasant*) would be positioned in the lower left corner.

Repeat the same process, but now have your students place each picture on the 7-point sleep-tension (or arousal) scale. Then, using the extra strip label to create a table with either of the previous dimensions paired with the 7-position sleep-tension (or arousal) scale, position each picture on its appropriate square.

DISCUSSION

What your students should quickly come to realize is that at the sleep end of the arousal scale, it makes no sense to distinguish between a pleasant or an unpleasant face as expressing emotion or between an accepting or a rejecting face as expressing emotion when asleep. In short, what should develop across the square pattern of 49 possible positions is that when sleep-tension is one dimension, the pattern of the photographed emotions on the table is triangular. It reaches its greatest array of pleasantness–unpleasantness at the aroused end of the activity scale and collapses toward some midpoint (neither pleasant nor unpleasant) as the level of arousal declines.

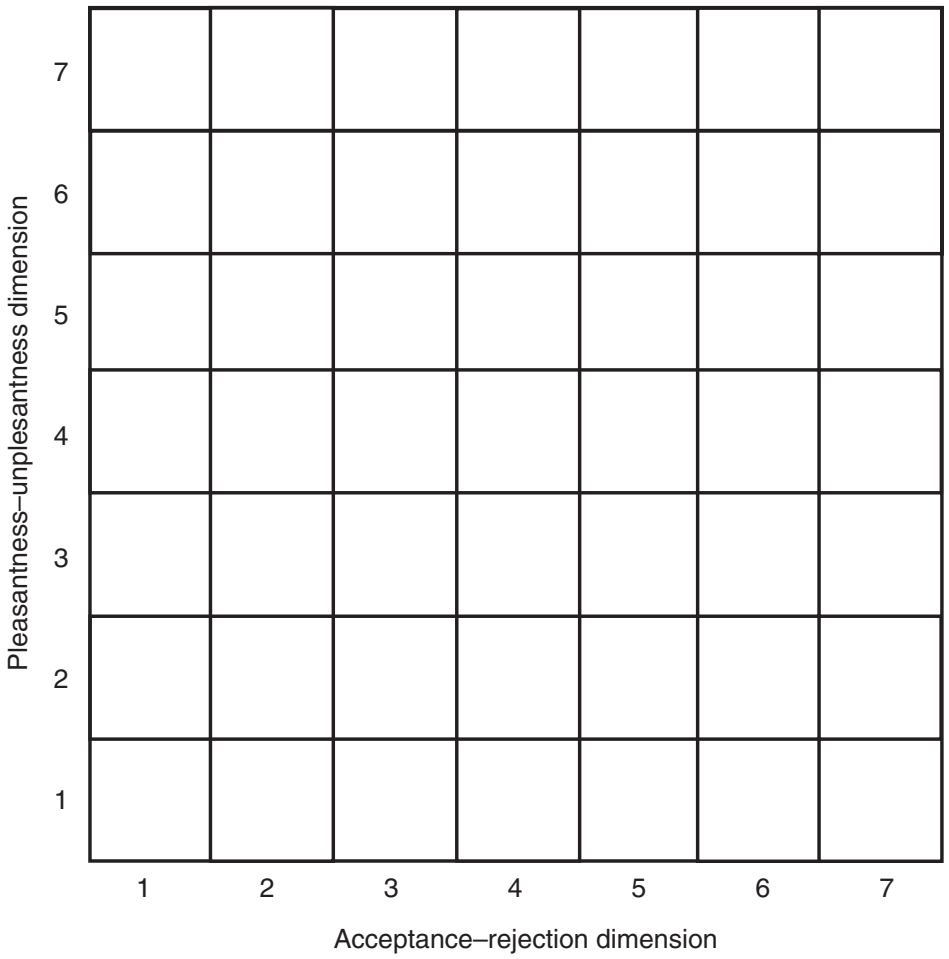
In essence (if you find these results!), your students have just demonstrated the impact of level of arousal on the diversity and intensity of emotions that can be experienced. As level of arousal increases, so does the diversity and intensity of emotions experienced.

When the photographs are arrayed on the pleasant–unpleasant and the acceptance–rejection scales simultaneously, is there evidence that these two scales measure the same thing? That is, do the ratings tend to covary, so that a rating of 7 (*rejection*) tends to be accompanied by a rating of 7 (*unpleasant*)? If so, then the pattern of photographs on the poster board should tend to be elliptical, with the largest number of photographs arrayed on the dimension stretching from 1.1 to 7.7.

Source: Adapted from Kasschau, R. A. (1980). Teacher's guide with tests to accompany *Psychology: Exploring behavior.* Engelwood Cliffs, NJ: Prentice-Hall. Copyright © 1980 Prentice-Hall Publishing Company. Reprinted by permission of Pearson Education, Inc.

Activity source: Kasschau, R. A. (1981). Human emotions. In L. T. Benjamin & K. D. Lowman (Eds.), *Activities handbook for the teaching of psychology* (Vol. 1). Washington, DC: American Psychological Association.

HANDOUT 1.1
grid for classroom poster



activity 2.1
the autonomic nervous system

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CONCEPT

The *autonomic nervous system* (ANS) consists of two sets of nerves that have reciprocal or mutually inhibitory effects. One, the *sympathetic nervous system* (SNS), has variously been called the "fright, fight, or flight" system, the arousal system, or the stress system. It mobilizes resources for emergency responses such as self-defense, and its effects include increases in heart rate, blood pressure, and respiration, among others. The other set of nerves is called the *parasympathetic nervous system* (PNS). It works to preserve bodily resources by slowing down respiration and heart rate and reducing blood pressure. The PNS restores the body to a resting state and resumes the body's maintenance functions.

MATERIALS

A stopwatch or timepiece with a second hand.

INSTRUCTIONS

A day or more before the demonstration, ask the students to write a brief description of a situation that had made them feel very angry or fearful. These situations will not be revealed to the instructor or the other students. Students should be cautioned not to choose an event that has been especially traumatic. A one-sentence description of a recent event will serve if it permits them to reexperience the event. The descriptions should be brought to class.

To begin the demonstration, have the students pair off and assign one of them to the subject role and one to the experimenter role. Show the experimenters how to take radial pulse rates on the inside of the wrist with just the fingertips to avoid a thumb echo, and give them a few minutes to practice. When all experimenters feel confident about taking the pulse, ask them to prepare a record sheet numbered 1–10, with two additional spaces marked 15 and 20. These correspond to the number of minutes that pass after beginning the exercise.

(activity 2.1 *continued on next page*)

(activity 2.1 *continued from previous page*)

The first 3 minutes are called the *base rate period*; the next 3 are called the *arousal period*, during which the subjects will be writing; and the next 4 are called the *recovery period*. The last two time periods of 5 minutes each constitute the final base rate period. During each minute, the experimenter measures the subject's pulse rate for the first 30 seconds only, but he or she should write down the rate after multiplying it by 2 to create an estimate of beats per minute (BPM). Explain before beginning that you will be examining the ANS effects on heart rate.

The subjects will attempt to arouse their SNS by writing a detailed essay on the event they chose earlier. They will begin writing immediately after the 3 minutes of the base rate period have elapsed. Encourage the subjects to write freely, assuring them that you will not be collecting the essays, and ask them to focus the essay on exactly what happened, how it made them feel, and what they did about it. At the end of the 6th minute, tell students to stop writing; some subjects get very involved and will have to be reminded. When all have stopped writing, tell them to simply sit and relax for the next 4 minutes. The last two measures are taken 5 minutes and 10 minutes after the recovery period.

The procedure will take less time if you can coordinate everyone's activities. After explaining what the class will be doing, and after the students have prepared the record sheets, begin timing. Announce when 30 seconds have expired (e.g., "Time, please multiply the pulse rate by 2 and write it down"), when 30 seconds of the 2nd minute expire ("Time, please write down the pulse rate for the second period"), and so on. When the 4th minute begins, ask subjects to begin writing. At the end of the 6th minute, have the subjects stop. The procedure for the last 4 minutes is the same as for the first 3; for the 15th and 20th minutes, you may want to set an alarm to remind the experimenters to begin recording again for 30 seconds. Make sure that all the experimenters have written down the BPM.

Next, ask each pair of students to prepare a graph like the one shown at the end of this activity. The data I have plotted are the averages of a class of 25; your students will prepare individual data. Before finishing the exercise, assemble a graph based on class averages so that they will see results more closely approximating those theoretically expected. If the class is especially large, you may need to collect the data sheets and provide the summary graph in a subsequent class period.

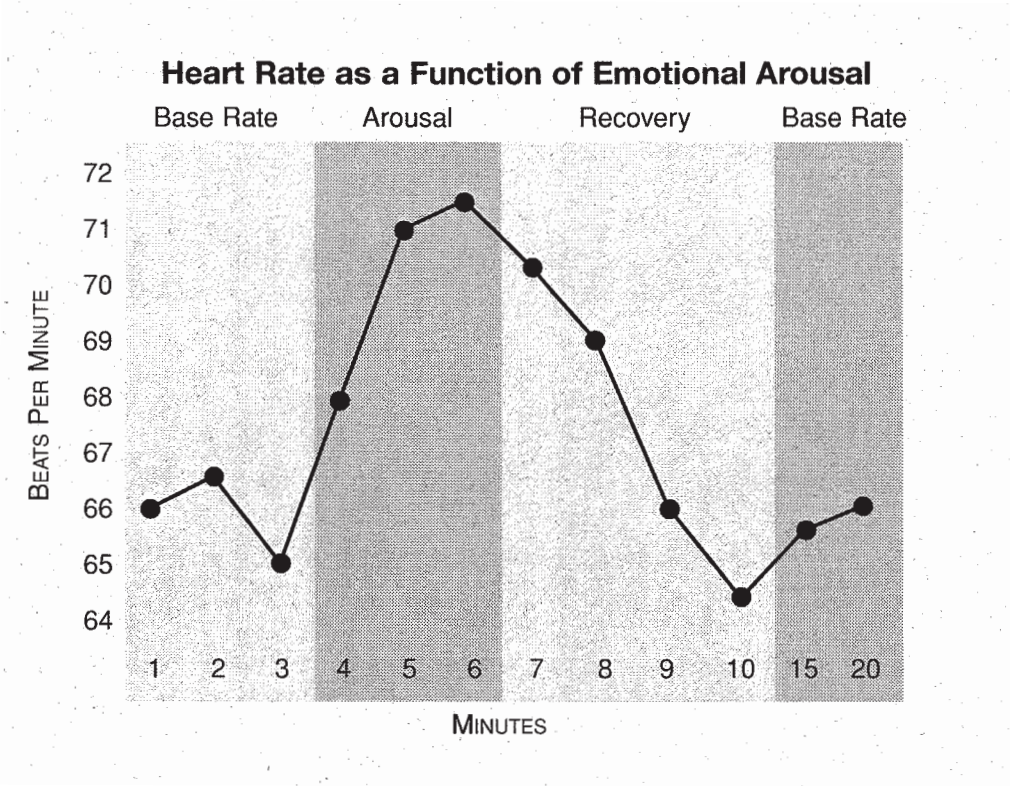
DISCUSSION

As the students examine their own graphs, I put data from a previous class on the board or display via a PowerPoint slide. I point out the drop in pulse rate during the first 3 minutes as evidence of the *guinea pig effect*, which is caused by the subjects' reactions to being measured. This effect always shows up. I next point out the relatively rapid rise in pulse rate as the subjects began writing their essays. The class average is typically 4–6 BPM higher than the base rate, but some individuals will show rates more than 20 BPM or higher. A discussion of such differences will reveal one or two subjects whose rate actually fell, an indication of an unusual response to fear or a failure to get involved with the writing task.

The next period, recovery, shows a gradual decline in pulse rate as the PNS inhibits the SNS. You may note the PNS rebound—that is, the average heart rate may fall below the initial base rate as the system is returning to a resting state.

Finally, the last base rate values should be very close to the values during the third minute (i.e., after the guinea pig effect), showing that the system has been restored to normalcy.

This activity is very straightforward. It has been extremely reliable for me, is sensitive to the relativity slight changes produced by writing the essay, and clearly illustrates the role of the ANS in emotional response. If you are interested in doing more with this exercise, several variations are available. For example, instead of letting the subjects return to the base rate, you can attempt to force a faster return by having them write a relaxing essay (e.g., a picnic, a day at the beach) at the beginning of the 7th minute. Or you can examine the physiological response to emotions other than fear and anger by asking some subjects to write about Christmas, others about a depressing event, and so on. For more ideas, see Levinthal (1983) and McFarland (1981).



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activity 3.1
differentiating between jealousy and envy

CONCEPT
Richard Smith and colleagues (Smith, Parrott, Diener, Hoyle, & Kim, 1999) developed the Dispositional Envy Scale (DES). In constructing the scale, the authors recognized that envy involves two principal affective components: feelings of inferiority and feelings of ill will.

MATERIALS
Handout 3.1

DESCRIPTION
Distribute the handout to students, allowing them to complete it as a classwork assignment or as a homework assignment. To score, students simply add up the numbers they placed in front of the eight items. Total scores can range from 8 to 40, with higher scores reflecting a greater tendency to experience envy.

Ask your students if they have ever engaged in the following jealous or envious behaviors: Have they ever called a boyfriend/girlfriend unexpectedly just to see if he or she was there? Extensively questioned a boyfriend/girlfriend about previous or present romantic relationships? Listened in on a telephone conversation of a boyfriend/girlfriend or secretly followed him or her? Taken advantage of unplanned opportunities to look through a boyfriend's/girlfriend's belongings for unfamiliar names, phone numbers, etc.? Also ask whether they have ever made nasty comments about someone who is better liked by friends . . . who had possessions they wished to have . . . who was more attractive . . . who was more successful. Discuss with them how common they believe these actions to be among people of different ages and genders.

DISCUSSION
Smith and his colleagues (1999) noted that envy is pervasive. Almost all cultures have a word for it, and most individuals are capable of feeling it. Envy is

(activity 3.1 *continued on next page*)

(activity 3.1 *continued from previous page*)

especially likely to be experienced when a person has suffered a recent setback, when the advantaged person is similar on comparison-related attributes, and when the domain of comparison is important to the self. A key component of envy seems to be a sense of injustice that arises from the idea that similar people ought to have similar outcomes. Research indicates that hostile reactions are particularly likely when another person's advantage is unalterable or uncontrollable.

Respondents with higher DES scores were more likely to have low self-esteem, to feel depressed, to experience various forms of interpersonal hostility, and to express unhappiness with their lives. DES scores were also positively correlated with a measure of dispositional jealousy. The researchers concluded by noting that envy is only one of several ways to respond to another's advantage. Some people may respond not only with little envy but may also feel energized and challenged in a positive, nonhostile manner. Social comparison information may provide an opportunity to see possibilities for oneself, to learn new skills, or simply to enjoy excellence, beauty, or good luck vicariously.

A number of investigators have suggested that jealousy and envy are rooted in low self-esteem or insecurities about self-worth. People with poor self-concepts are more likely to fear that any existing relationship is vulnerable to threat. Jealousy is also more likely to occur when people believe they are putting more into a relationship than their partner is; they have serious doubts about their partner's commitment. Clinical observations also suggest that males and females may respond differently to feelings of jealousy. Males seem less likely to admit that they feel jealous but are more likely to express anger with themselves or toward the rival; females are more likely to react with depression and with attempts to make themselves more attractive to the partner.

Salovey and Rodin (1985) reported that people use three coping methods in dealing with jealousy and envy: **self-reliance**, **self-bolstering**, and **selective ignoring**. The best way to reduce the intensity of one's pain is through *self-reliance*. "It's a strategy where you say, 'I'm just not going to let it get to me,'" said Salovey, "'I'm just going to keep my day-to-day activities going . . . I'm not going to sulk . . . I'm going to stay as committed to my goals as I've ever been.'" Unfortunately, most of us resort to *self-bolstering*—we try to comfort ourselves with special treats or by focusing on our good qualities. Although this may temporarily relieve anger, in the long run it does not reduce feelings of jealousy and envy. The third approach, *selective ignoring*, involves placing less emphasis and importance on whatever it is that makes us jealous or envious. Not as effective as self-reliance, it is still more effective than self-bolstering in reducing jealousy.

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Activity source: Adapted from Fineburg, A. C. (2008). Teacher's resources to accompany *Thinking about psychology* (2nd ed.) by C. T. Blair-Broeker & R. M. Ernst. New York, NY: Worth. Adapted with permission.

HANDOUT 3.1
dispositional envy scale (DES)

Respond to the statements below using the following scale:

1 = strongly disagree
2 = moderately disagree
3 = neither agree nor disagree
4 = moderately agree
5 = strongly agree

_____ 1. I feel envy every day.

_____ 2. The bitter truth is that I generally feel inferior to others.

_____ 3. Feelings of envy constantly torment me.

_____ 4. It is so frustrating to see some people succeed so easily.

_____ 5. No matter what I do, envy always plagues me.

_____ 6. I am troubled by feelings of inadequacy.

_____ 7. It somehow doesn't seem fair that some people seem to have all the talent.

_____ 8. Frankly, the success of my neighbors makes me resent them.

Source: Smith, R. H., Parrott, W. G., Diener, E. F., Hoyle, R. H., & Kim, S. H. (1999). Dispositional Envy Scale. *Personality and Social Psychology Bulletin, 25,* 1011. Copyright © 1999 by Sage Publications, Inc. Reprinted with permission.

activity 4.1
facial feedback hypothesis

CONCEPT

Charles Schallhorn and Jeff Lunde (1999) have provided a classroom exercise primarily intended to introduce the James–Lange theory of emotion. The demonstration replicates research described in the "Emotional Experience" section in this unit, so you will want to use the demonstration before your students have read that section of the text.

MATERIALS

Handout 4.1; 10 newspaper cartoons, with enough copies for each student.

DESCRIPTION

Before class you need to prepare a packet of 10 newspaper cartoons and make enough copies for each student in the class. Distribute the cartoons and the handout to each student. Instruct your students to keep the materials turned over on their desks until you give the signal to begin. Divide the class in half (left and right halves work well). For one group, ask students to hold a pencil or pen in their mouth just behind the front teeth (and thereby to smile). Tell them they need to keep their lips apart, not allowing their lips to touch the pen/pencil. Ask the second group to hold a pencil or pen between the upper lip and nose (and thereby to frown). The second group can also hold a pencil or pen between the lips, lips curled inwards, so the teeth do not touch the pencil or pen (which again causes a frown).

Don't specifically tell them they are smiling or frowning. Once both groups are clear on how to hold the pen/pencil, have them read the cartoons and evaluate how funny each is on the rating scale. Finally, ask each student to find his or her mean rating for the entire cartoon packet and write it on the bottom of the rating sheet. Collect the ratings and have an assistant tally the ratings for each group. If your class is not too large, you can have students report their overall mean ratings orally as you write them on the chalkboard. Compute the mean for each group. Students induced to smile will rate the cartoons as funnier than those induced to frown.

(activity 4.1 *continued on next page*)

(activity 4.1 *continued from previous page*)

DISCUSSION

Ask students to explain the difference in group ratings. Do we smile because we are happy or are we happy because we smile? The results suggest that facial expressions help determine emotional reactions. The finding is consistent with the James–Lange theory of emotion. James (1890) suggested that "we feel sorry because we cry, angry because we strike, afraid because we tremble" (p. 1066). Research confirms this by showing that when people have been instructed to mold their faces in ways that mimic expressions of the basic emotions, including happiness, anger, fear, disgust, and sadness, they also experience those emotions. Just activating the smiling muscles by holding a pen in the teeth (rather than with the lips, which activates frowning muscles) is enough to make cartoons seem more amusing.

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James, W. (1890). *The principles of psychology* (Vol. 2). New York, NY: Holt.

Activity source: Schallhorn, C., & Lunde, J. (1999). The facial feedback hypothesis: Are emotions really related to the faces we make? In L. T. Benjamin, B. F. Nodine, R. M. Ernst, & C. B. Broeker (Eds.), *Activities handbook for the teaching of psychology* (Vol. 4, pp. 228–231). Washington, DC: American Psychological Association. Copyright © 1999 by the American Psychological Association.

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HANDOUT 4.1
data collection sheet

Which group are you in? _____Lip _____Teeth

DIRECTIONS: Rate all 10 cartoons in your packet while you are holding your pencil or pen according to the instructions for your group. In each case, how funny do you think the cartoon is?

	Not funny at all						Extremely funny
Cartoon 1	1	2	3	4	5	6	7
Cartoon 2	1	2	3	4	5	6	7
Cartoon 3	1	2	3	4	5	6	7
Cartoon 4	1	2	3	4	5	6	7
Cartoon 5	1	2	3	4	5	6	7
Cartoon 6	1	2	3	4	5	6	7
Cartoon 7	1	2	3	4	5	6	7
Cartoon 8	1	2	3	4	5	6	7
Cartoon 9	1	2	3	4	5	6	7
Cartoon 10	1	2	3	4	5	6	7

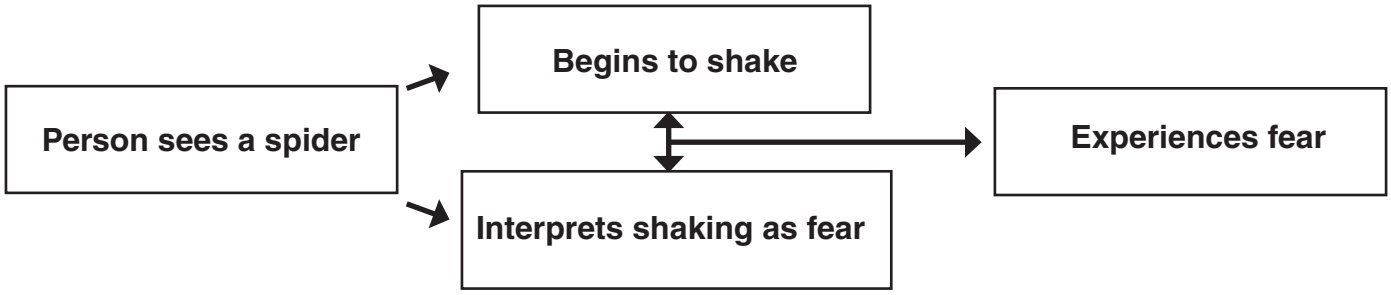
TRANSPARENCY MASTER 4.1 TEACHING THEORIES OF EMOTION

JAMES–LANGE THEORY

"I am afraid because I am shaking."

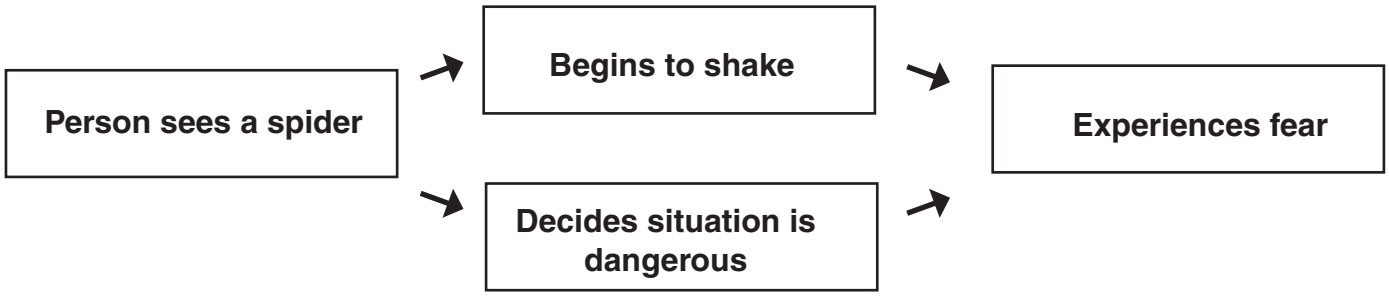
CANNON–BARD THEORY

"The spider makes me shake and feel afraid."



TWO-FACTOR THEORY

"I label my shaking as fear because I appraised the situation as dangerous."



activity 4.2
what do you fear?

CONCEPT
To introduce the emotion of fear, have students complete this activity, which is adapted from the Temple Fear Survey Inventory (Braun & Reynolds, 1969).

MATERIALS
Handout 4.2

DESCRIPTION
Distribute the handout to each student, allowing the students to complete it for classwork or homework. Collect the handouts and calculate the mean for each item before the next class.

DISCUSSION
Students are particularly eager to compare their responses with those of others. The scores of 435 introductory psychology students at Temple University provide comparative data. Mean scores for the 35 items are given below for males and females. For most items, females report greater fear than males do. Ask students how this difference should be interpreted. Are females more fearful or simply more willing to admit their fears?

	M	F		M	F		M	F
1.	1.5	1.7	13.	1.5	2.0	25.	1.4	1.4
2.	2.4	2.6	14.	1.8	1.9	26.	1.3	1.5
3.	2.0	2.1	15.	2.0	2.8	27.	1.4	2.1
4.	1.5	1.6	16.	1.6	1.8	28.	1.6	1.7
5.	2.0	2.1	17.	2.5	2.7	29.	1.9	2.7
6.	1.9	2.1	18.	1.7	2.1	30.	1.1	1.1
7.	2.2	3.1	19.	1.6	1.8	31.	1.8	1.9
8.	2.6	2.7	20.	2.0	2.1	32.	1.1	1.4
9.	2.7	2.4	21.	2.5	2.6	33.	2.2	2.4
10.	2.1	2.0	22.	2.3	2.3	34.	2.3	2.3
11.	2.2	2.1	23.	1.5	1.7	35.	2.0	2.1
12.	2.4	2.7	24.	1.6	1.7			

(activity 4.2 *continued on next page*)

(activity 4.2 *continued from previous page*)

REFERENCE

Braun, P. R., & Reynolds, D. J. (1969). A factor analysis of a 100-item fear survey inventory. *Behavior Research and Therapy, 7,* 399–402.

Activity source: Adapted from Fineburg, A. C. (2008). Teacher's resources to accompany *Thinking about psychology* (2nd ed.) by C. T. Blair-Broeker & R. M. Ernst. New York, NY: Worth. Adapted with permission.

HANDOUT 4.2
fear survey

What do you fear? For each of the following 35 items, indicate the degree to which you fear the situation. Write a number from 1 to 5, according to this code.

1 = none 2 = some 3 = much 4 = very much 5 = terror

1. Being alone
2. Speaking before a group
3. Riding a roller coaster
4. Being in closed places
5. High places
6. Dentists
7. Being physically assaulted
8. Failing a test
9. Not being a success
10. Losing a job
11. Making mistakes
12. Death
13. Dark places
14. Receiving injections
15. Snakes
16. Swimming alone
17. Prospects of a surgical operation
18. Deep water
19. Blood
20. Being criticized
21. Suffocating
22. Looking foolish
23. Being a passenger in an airplane
24. Meeting someone for the first time
25. Crowded places
26. Boating
27. Being with a member of the opposite sex
28. Entering a room where other people are already seated
29. Bats
30. Large open spaces
31. Being watched while working
32. Being in an elevator
33. Feeling rejected by others
34. Feeling disapproved of
35. Being ignored

Source: Adapted from Braun, P. R., & Reynolds, D. J. (1969). A factor analysis of a 100-item fear survey inventory. *Behaviour Research and Therapy, 7,* 399–402. Copyright © Elsevier Science. Reprinted with permission.

activity 4.3
the PANAS
(positive and negative affect schedule)

CONCEPT
Studies of affective structure have consistently shown that positive and negative affect are the two primary dimensions of mood. For example, they appear as the first two factors in factor analysis of self-rated mood and as the first two dimensions in multidimensional scalings of facial expressions. This activity contains Watson, Clark, and Tellegen's (1988) brief measures of positive and negative affect.

MATERIALS
Handout 4.3

DESCRIPTION
Distribute the handout to the students, allowing them to complete it as classwork or as a homework assignment. Scores for each scale are obtained by adding the numbers in front of each relevant item.

DISCUSSION
Ten of the listed items (interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, and active) form the Positive Affect scale, and the other 10 (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, and afraid) form the Negative Affect scale. A large sample of undergraduates had means of 35.0 and 18.1 on the Positive and Negative scales, respectively.

Positive affect (PA) reflects the degree to which a person feels enthusiastic, active, and alert. High PA constitutes a state of high energy, full concentration, and pleasurable engagement, whereas low PA is marked by sadness and lethargy. Negative affect (NA) is a general dimension of subjective distress that subsumes a variety of aversive states, including anger, contempt, disgust, guilt, fear, and nervousness. Low NA is a state of calmness and serenity. Research

(activity 4.3 *continued on next page*)

(activity 4.3 *continued from previous page*)

has indicated that NA but not PA is related to stress and poor coping, health complaints, and frequency of unpleasant events. In contrast, PA but not NA is related to level of social activity and life satisfaction, as well as to the relative frequency of pleasant events.

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Watson, D., Clark, L., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54,* 1063–1070.

Activity source: Adapted from Fineburg, A. C. (2008). Teacher's resources to accompany *Thinking about psychology* (2nd ed.) by C. T. Blair-Broeker & R. M. Ernst. New York, NY: Worth. Adapted with permission.

HANDOUT 4.3
the PANAS

The words listed below describe different feelings and emotions. Read each item and then, in the space next to that word, indicate the extent to which you generally feel that way, that is, how you feel on the average.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

___	interested	___	irritable
___	distressed	___	alert
___	excited	___	ashamed
___	upset	___	inspired
___	strong	___	nervous
___	guilty	___	determined
___	scared	___	attentive
___	hostile	___	jittery
___	enthusiastic	___	active
___	proud	___	afraid

Source: Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales [Appendix]. *Journal of Personality and Social Psychology, 54,* p. 1070. Copyright © 1988 by the American Psychological Association. Reprinted with permission.

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activity 5.1
flashing faces

Linda Winchell

CONCEPT

One phase of the study of emotions of interest to students and teachers alike is the expression of emotions. Whenever psychologists have studied emotional expression, some have maintained that the expression of emotion is learned and is therefore unique to each culture. Others agree with Charles Darwin, who maintained that because facial expressions are biologically based, one can find universality in expression.

Whichever position is true, it is generally agreed that the face provides the most signals for expression of emotions. The forehead, eyebrows, eyelids, cheeks, nose, lips, and chin all serve to give clues to the feelings one is experiencing. There appear to be "rules" individuals use to "read" faces, but seldom can they verbalize those rules. These have not been learned in a systematic way; instead, they are picked up by chance from one's family.

The purpose of this demonstration is to help students evaluate how well they are able to identify what emotion is being expressed in a facial expression. If time allows, students could try to list the "rules" they used to determine what emotion was being expressed.

MATERIALS

Teachers should obtain a copy of Ekman and Friesen's (1975) *Unmasking the Face.* On pages 175–201, Ekman compiled a set of practice faces that express one or more of the following six emotions: surprise, fear, disgust, anger, happiness, and sadness. Cut out the pictures (anywhere from 20 to 40 of the pictures) and paste them on index cards, as suggested by the author. Be certain to write the correct number on the back of the index cards so that it will be possible to look up the correct answers listed on pages 130–134. Judgment sheets (see Handout 5.1) are to be duplicated and distributed to the students.

(activity 5.1 *continued on next page*)

(activity 5.1 *continued from previous page*)

DESCRIPTION

One of the judgment sheets should be given to each student. At this time it might be helpful to define the terms *contempt* and *disgust* on the judgment sheets, as many students have difficulty with the differences in these terms. Shuffle the cards and show them one at a time to the class. Ask your students to make a quick judgment in each case as to which emotion listed on the judgment sheet is expressed in the face.

When you are finished with all the cards, refer to page 130 of *Unmasking the Face* and slowly read the correct answer for each of the faces. Students are to circle each judgment they have correct. Count totals and record that number on the judgment sheet. Count the number of each of the emotions labeled correctly by the whole class and record that number in the blank next to emotion.

DISCUSSION

1. Make a distribution chart showing the total number of correct judgments for each card. Discuss how well or poorly the students were able to identify emotions expressed. What do these results say about their abilities to "read" faces? Were some of the expressions easier than the others? Photos were shuffled and arranged randomly to provide a variety of the eight labels; did placement make some emotions easier to read? Ask each student which emotion he or she identified correctly most often. Make a distribution chart and then note trends with possible explanations.

2. Ask students which emotion they correctly identified least often; note trends with possible explanations.

3. If there is time, students can analyze the pictures displaying certain emotions to see if they can list the "rules" they used to "read" the faces.

4. Those showing more adeptness at reading faces may wish to try Set C, which is a group of 10 faces that reflect a blend of two emotions.

5. The teacher may wish to describe the cross-cultural research Ekman has conducted to support his thesis of universality of interpretation.

Source: Adapted from Ekman, P., & Friesen, W. V. (1975). *Unmasking the face. A guide to recognizing emotions from facial clues.* Englewood Cliffs, NJ: Prentice-Hall. Copyright © 1975 by Prentice-Hall Publishing Company. Reprinted by permission of Pearson Education, Inc.

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HANDOUT 5.1
judgment sheet

Total Correct

Anger	_____	Happiness	_____
Contempt	_____	Sadness	_____
Disgust	_____	Surprise	_____
Fear	_____	Neutral	_____

1.	11.	21.	31.
2.	12.	22.	32.
3.	13.	23.	33.
4.	14.	24.	34.
5.	15.	25.	35.
6.	16.	26.	36.
7.	17.	27.	37.
8.	18.	28.	38.
9.	19.	29.	39.
10.	20.	30.	40.

Total correct _____

Name _____
Period _____

activity 5.2
perspective taking

This activity focuses on diversity of emotions, their expressions, and interpretations.

Instruct students to find articles on Chinese or Japanese culture and relevant emotional expression (e.g., http://www.livescience.com/health/070510_facial_culture.html). After students have found and read the articles, ask them to write a brief story that contains emotions, presented from the perspective of an individual from the relevant culture (Chinese or Japanese). The story could be on a typical Saturday with their family, or a birthday party or graduation.

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www.apa.org

APA Topic: Emotional Health
http://www.apa.org/topics/emotion/index.aspx

APA Help Center
http://www.apa.org/helpcenter/

The Brain From Top to Bottom: Depression and lateralization of function
http://thebrain.mcgill.ca/flash/i/i_08/i_08_cr/i_08_cr_dep/i_08_cr_dep.html

Clips for Class (several short video clips related to emotions, including lying)
http://clipsforclass.com/emotion.php

Facial expressions of emotion: Paul Ekman
http://mambo.ucsc.edu/psl/ekman.html
http://www.paulekman.com

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